



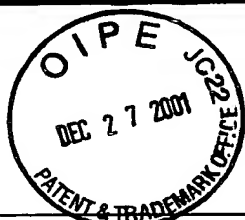
Sheet 1 of 24

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<b>Form PTO-1449 Modified</b>		Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office		Applicant <b>Manoharan et al.</b>	
		Filing Date <b>October 9, 2001</b>	Group <b>Not yet assigned</b>
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
<i>M</i>	<b>AA</b>	Asseline, U. et al., "Nucleic acid-binding molecules with high affinity and base sequence specificity: Intercalating agents covalently linked to oligodeoxynucleotides", <i>Proc. Natl. Acad. Sci.</i> , <b>1984</b> , 81, 3297-3301	
<i>M</i>	<b>AB</b>	Beaucage, S.L. et al., "The Functionalization of Oligonucleotides Via Phosphoramidite Derivatives," <i>Tetrahedron</i> , <b>1993</b> , 49(10), 1925-1963	
<i>M</i>	<b>AC</b>	Beaucage, S.L. et al., "The Synthesis of Specific Ribonucleotides and Unrelated Phosphorylated Biomolecules by the Phosphoramidite Method," <i>Tetrahedron</i> , <b>1993</b> , 49(46), 10441-10488	
<i>M</i>	<b>AD</b>	Beaucage, S.L. et al., "Advances in the Synthesis of Oligonucleotides by the Phosphoramidite Approach", <i>Tetrahedron</i> , <b>1992</b> , 48, 2223-2311	
<i>M</i>	<b>AE</b>	Buzayan, J.M. et al., "Satellite tobacco ringspot virus RNA: A subset of the RNA sequence is sufficient for autolytic processing", <i>Proc. Natl. Acad. Sci. USA</i> , <b>1986</b> , 83, 8859-8862	
<i>M</i>	<b>AF</b>	Chollet, A., "Selective Attachment of Oligonucleotides to Interleukin 1 $\beta$ and Targeted Delivery to Cells", <i>Nucleosides &amp; Nucleotides</i> , <b>1990</b> , 9, 957-966	
<i>M</i>	<b>AG</b>	Corey, D.R. et al., "Sequence-Selective Hydrolysis of Duplex DNA by and Oligonucleotide-Directed Nuclease", <i>J. Am. Chem. Soc.</i> , <b>1989</b> , 111, 8523-8525	
<i>M</i>	<b>AH</b>	Corey, D.R. et al., "Generation of a Hybrid Sequence-Specific Single-Stranded Deoxyribonuclease", <i>Science</i> , <b>1987</b> , 238, 1401-1403	
<i>M</i>	<b>AI</b>	Crooke, S.T. et al., "Pharmacokinetic Properties of Several Novel Oligonucleotide Analogs in mice", <i>J. Pharmacol. Exp. Therapeutics</i> , <b>1996</b> , 277, 923-937	
<i>M</i>	<b>AJ</b>	Dingwell et al., "Protein Import into the Cell Nucleus", <i>Ann. Rev. Cell Biol.</i> , <b>1986</b> , 2, 367-390	
<i>M</i>	<b>AK</b>	Dreyer, G.B. et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-EDTAFe(II)", <i>Proc. Natl. Acad. Sci.</i> , <b>1985</b> , 82, 968-972	
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Applicant  
**Manoharan et al.**

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Not yet assigned

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	AM	Forster, A.C. et al., "Self-Cleavage of Virusoid RNA is Performed by the Proposed 55-Nucleotide Active Site", <i>Cell</i> , 1987, 50, 9-16
	AN	Freier, S.M. et al., "The ups and downs of nucleic acid duplex stability: structure-stability studies on chemically-modified DNA:RNA duplexes", <i>Nucl. Acids Res.</i> , <b>1997</b> , 25, 4429-4443
	AO	Guerra, F.I. et al., "Synthetic 6-Glucosyl Phospholipid as a Drug Transport System", <i>Tetrahedron Letts.</i> , <b>1987</b> , 28, 3581-3584
	AP	Haralambidis, J. et al., "Preparation of base-modified nucleosides suitable for non-radioactive label attachment and their incorporation into synthetic oligodeoxyribonucleotides", <i>Nucl. Acids. Res.</i> , <b>1987</b> , 15, 4857-4876
	AQ	Haralambidis, J. et al., "The Solid Phase Synthesis of Oligonucleotides Containing a 3'-Peptide Moiety", <i>Tetrahedron Letts.</i> , <b>1987</b> , 28, 5199-5202
	AR	Jablonski, E. et al., "Preparation of oligodeoxynucleotide - alkaline phosphatase conjugates and their use as hybridization probes", <i>Nucl. Acids Res.</i> , <b>1986</b> , 14, 6115-6128
	AS	Juby, C.D. et al., "Facile Preparation of 3'Oligonucleotide-Peptide Conjugates", <i>Tetrahedron Letts.</i> , <b>1991</b> , 32, 879-882
	AT	Kabanov, A.V., "A new class of antivirals: antisense oligonucleotides combined with a hydrophobic substituent effectively inhibit influenza virus reproduction and synthesis of virus-specific proteins in MDCK cells", <i>FEBS Letts.</i> , <b>1990</b> , 259, 327-330
	AU	Kornberg, A. et al., <i>DNA Replication</i> , <b>1980</b> , W.H. Freeman & Co., San Francisco, 4-7
	AV	Krieg, A.M. et al., "Uptake of Oligodeoxyribonucleotides by Lymphoid Cells Is Heterogenous and Inducible", <i>Antisense Res. &amp; Dev.</i> , <b>1991</b> , 1, 161-171
	AW	Kroschwitz, J.I., "Polynucleotides", <i>Concise Encyclopedia of Polymer Science and Engineering</i> , <b>1990</b> , John Wiley & Sons, New York, 858-859
Ph	AX	Lehninger, "The amino acid building blocks of proteins", <i>Biochemistry</i> , Second Edition, Worth Publishers, Inc., <b>1975</b> , Ch. 4, 73-77

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	Applicant <b>Manoharan et al.</b>	
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u	AY	Lemairte, M. et al., "Specific antiviral activity of a poly(L-lysine)-conjugated oligodeoxyribonucleotide sequence complementary to vesicular stomatitis virus N protein mRNA initiation site", <i>Proc. Natl. Acad. Sci.</i> , <b>1987</b> , 84, 648-652
	AZ	Leonetti, J.P. et al., "Biological Activity of Oligonucleotide-Poly(L-lysine) Conjugates: Mechanism of Cell Uptake", <i>Biconjugate Chem.</i> , <b>1990</b> , 1, 149-153
	BA	Letsinger, R.L. et al., "Cholesteryl-conjugated oligonucleotides: Synthesis, properties and activity as inhibitors of replication of human immunodeficiency virus in cell culture", <i>Proc. Natl. Acad. Sci.</i> , <b>1989</b> , 86, 6553-6556
	BB	Manoharan, M. et al., "Lipidic Nucleic Acids", <i>Tetrahedron Letts.</i> , <b>1995</b> , 36, 3651-3654
	BC	Manoharan M. et al., "Cholic Acid-Oligonucleotide Conjugates for Antisense Applications", <i>Bioorganic Med. Chem. Letts.</i> , <b>1994</b> , 4, 1053-1060
	BD	Manoharan, M. et al., "Chemical Modifications to Improve Uptake and Bioavailability of Antisense Oligonucleotides", <i>Annals NY Acad. Sciences</i> , <b>1992</b> , 660, 306-309
	BE	Manoharan, M. et al., "Introduction of a Lipophilic Thioether Tether in the Minor Groove of Nucleic Acids for Antisense Applications", <i>Bioorg. Med. Chem. Letts.</i> , <b>1993</b> , 3, 2765-2770
	BF	Manoharan M. et al., "Oligonucleotide Conjugates: Alteration of the Pharmacokinetic Properties of Antisense Agents", <i>Nucleosides and Nucleotides</i> , <b>1995</b> , 14, 969-973
	BG	Miller, P.S. et al., "A New approach to chemotherapy based on molecular biology and nucleic acid chemistry: Matagen (masking tape for gene expression)", <i>Anti-Cancer Drug Des.</i> , <b>1987</b> , 2, 117-128
	BH	Martin, P., "Ein neuer Zugang zu 2'-O-Alkylribonucleosiden und Eigenschaften deren Oligonucleotide", <i>Helvetica Chemica Acta</i> , <b>1995</b> , 78, 486-504 (English summary included)
	BI	Mishra, R.K. et al., "Improved leishmanicidal effect of phosphorothioate antisense oligonucleotides by LDL-mediated delivery", <i>Biochim. Et Biophysica</i> , <b>1995</b> , 1264, 229-237
u	BJ	Nelson, P.S. et al., "Bifunctional oligonucleotide probes synthesized using a novel CPG: support are able to detect single base pair mutations", <i>Nucl. Acids Res.</i> , <b>1989</b> , 17, 7187-7195

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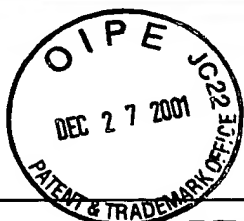
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<i>u</i>	<b>BK</b>	Nielsen, P.E. et al., "Sequence-Selective Recognition of DNA by Strand Displacement with a Thymine-Substituted Polyamide", <i>Science</i> , <b>1991</b> , 254, 1497-1500	
	<b>BL</b>	Oberhauser, B. et al., "Effective incorporation of 2'-O-methyl-oligonucleotides into liposomes and enhanced cell association through modification with thiocholesterol", <i>Nucl. Acids Res.</i> , <b>1992</b> , 20, 533-538	
	<b>BM</b>	Ramirez, F. et al., "Nucleotidophospholipids: Oligonucleotide Derivatives with Membrane-Recognition Groups", <i>J. Am. Chem. Soc.</i> , <b>1982</b> , 104, 5483-5486	
	<b>BN</b>	Saison-Behmoaras, T. et al., "Short modified antisense oligonucleotides directed against Ha-ras point mutation induce selective cleavage of the mRNA and inhibit T24 cells proliferation", <i>EMBO J.</i> , <b>1991</b> , 10, 1111-1118	
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	<b>BP</b>	Shea, R.G. et al., "Synthesis, hybridization properties and antiviral activity of lipid-oligodeoxynucleotide conjugates", <i>Nucl. Acids Res.</i> , <b>1990</b> , 18, 3777-3783	
	<b>BQ</b>	Svinarchuk, F.P. et al., "Inhibition of HIV proliferation in MT-4 cells by antisense oligonucleotide conjugated to lipophilic groups", <i>Biochimie</i> , <b>1993</b> , 79, 49-54	
	<b>BR</b>	Telser, J. et al., "Synthesis and Characterization of DNA Oligomers and Duplexes Containing Covalently Attached Molecular Labels: Comparison of Biotin, Fluorescein, and Pyrene Labels by Thermodynamic and Optical Spectroscopic Measurements", <i>J. Am. Chem. Soc.</i> , <b>1989</b> , 111, 6966-6975	
	<b>BS</b>	Wychowski, C. et al., "The Intracellular Location of Simian Virus 40 Polypeptides VP2 and VP3 Depends on a Specific Amino Acid Sequence", <i>J. Virology</i> , <b>1987</b> , 61, 3862-3869	
	<b>BT</b>	Yamana, K. et al., "Synthesis and Interactive Properties of an Oligonucleotide with Anthraquinone at the Sugar Fragment", <i>Biconjugate Chem</i> , <b>1990</b> , 1, 319-324	
<i>u</i>	<b>BU</b>	Yoneda et al., "Synthetic Peptides Containing a Region of SV40 Large T-Antigen Involved in Nuclear Localization Direct the Transport of Proteins into the Nucleus", <i>Exp. Cell Res.</i> , <b>1987</b> , 170, 439-452	
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<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
	<b>BV</b>	Zhang, Z. et al., "Uptake of N-(4'-pyridoxyl)amines and release of amines by renal cells: A model for transporter-enhanced delivery of bioactive compounds", <i>Proc. Natl. Acad. Sci.</i> , <b>1991</b> , 88, 10407-10410	
	<b>BW</b>	Zuckermann, R.N. et al., "Site-Selective Cleavage of RNA by a Hybrid Enzyme", <i>J. Am. Chem. Soc.</i> , <b>1988</b> , 110, 1614-1615	
	<b>BX</b>	Atherton, E. et al., "The Fluorenylmethoxycarbonyl Amino Protecting Group", <i>The Peptides</i> , <b>1987</b> , 9, 1-39	
	<b>BY</b>	Samukov, V.V. et al., "2-(4-Nitrophenyl) sulfonylethoxycarbonyl (Nse) Group as a Base-Labile $\alpha$ -Amino Protection for Solid Phase Peptide Synthesis", <i>Tetrahedron Letts.</i> , <b>1994</b> , 35, 7821-7824	
	<b>BZ</b>	Verhart, C.G.J., "New base-labile amino-protective groups for peptide synthesis", <i>Recl. Trav. Chim. Pays-Bas</i> , <b>1988</b> , 107, 621-626	
	<b>CA</b>	Habus, I. et al., "A Mild and Efficient Solid-Support Synthesis of Novel Oligonucleotide Conjugates", <i>Bioconj. Chem.</i> , <b>1998</b> , 9, 283-291	
	<b>CB</b>	Nomura, Y., et al., "Site-specific introduction of functional groups into phosphodiester oligodeoxynucleotides and their thermal stability and nuclease-resistance properties," <i>Nucleic Acids Res.</i> , <b>1997</b> , 25(14), 2784-2791	
	<b>CC</b>	Rosowsky et al., "Nucleosides. 1. 9-(3'-Alkyl-3'-deoxy-beta-D-ribofuranosyl)adenines as lipophilic analogues of cordycepin. Synthesis and preliminary studies", <i>Journal of Medicinal Chemistry</i> , <b>November, 1976</b> , 19(11), 1265-1270	
	<b>CD</b>	Wasner, M., et al., "6-aminohexanoyl-linked conjugates of monomeric and trimeric cordycepin," <i>Helvetica Chimica Acta</i> , <b>1997</b> , 80, 1061-1072	
*	<b>CE</b>	Cohen in <i>Oligonucleotides: Antisense Inhibitors of Gene Expression</i> , CRC Press, Inc., Boca Raton, FL, <b>1989</b>	
*	<b>CF</b>	Greene et al., <i>Protective Groups in Organic Synthesis</i> , 2d ed., Chapter 2, John Wiley & Sons, New York, <b>1991</b>	
*	<b>CG</b>	Ekstein, F. (Ed.), <i>Oligonucleotides and Analogues A Practical Approach</i> , IRL Press, N.Y., <b>1991</b>	
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\*A copy of this reference was not forwarded to the U.S. Patent and Trademark Office since it was believed to be too voluminous and easily obtainable by the Examiner.



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**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
24	CH	3,687,808	08/29/72	Merigan et al.	195	28
	CI	4,469,863	09/04/84	Ts'o et al.	536	27
	CJ	4,476,301	10/09/84	Imbach et al.	536	27
	CK	4,587,044	05/06/86	Miller et al.	530	211
	CL	4,605,735	08/12/86	Miyoshi et al.	536	27
	CM	4,667,025	05/19/87	Miyoshi et al.	536	27
	CN	4,689,320	08/25/87	Kaji	514	44
	CO	4,725,677	02/16/88	Köster et al.	536	27
	CP	4,762,779	08/09/88	Snitman	435	6
24	CQ	4,789,737	12/06/88	Miyoshi et al.	536	27

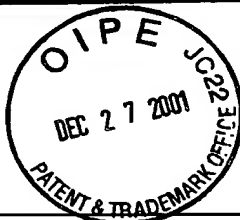
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Examiner Initial		Document No.	Date	Country	Translation YES NO	
24	CR	0 251 283	06/29/87	EPO	X	
	CS	WO 86/02929	05/22/86	PCT	X	
	CT	WO 90/10448	09/20/90	PCT	X	
	CU	WO 90/12096	10/18/90	PCT	X	
	CV	WO 91/10671	07/25/91	PCT	X	
24	CW	WO 93/07883	04/29/93	PCT	X	

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<i>Q</i>	CX	4,806,463	02/21/89	Goodchild et al.	435	5
	CY	4,824,941	04/25/89	Gordon et al.	530	403
	CZ	4,828,979	05/09/89	Klevan et al.	435	6
	DA	4,835,263	05/30/89	Nguyen et al.	536	27
	DB	4,845,205	07/04/89	Huynh Dinh et al.	536	28
	DC	4,876,335	10/24/89	Yamane et al.	536	27
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	DE	4,948,882	08/14/90	Ruth	536	27
	DF	4,958,013	09/18/90	Letsinger	536	27
<i>U</i>	DG	4,981,957	01/01/91	Lebleu et al.	536	27

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<i>Y</i>	<b>DH</b>	Re. 34,069	09/15/92	Köster et al.	536	27
	<b>DI</b>	5,004,810	04/02/91	Draper	536	27
	<b>DJ</b>	5,013,830	05/07/91	Ohtsuka et al.	536	27
	<b>DK</b>	5,023,243	06/11/91	Tullis	514	44
	<b>DL</b>	5,034,506	07/23/91	Summerton et al.	528	391
	<b>DM</b>	5,082,830	1/21/92	Brakel et al.	514	44
	<b>DN</b>	5,087,617	02/11/92	Smith	514	44
	<b>DO</b>	5,098,890	03/24/92	Gerwirtz et al.	514	44
<i>M</i>	<b>DP</b>	5,108,921	04/28/92	Low et al.	435	240.1

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<i>u</i>	<b>DQ</b>	5,109,124	4/28/92	Ramachandran et al.	536	27
	<b>DR</b>	5,112,963	05/12/92	Pieles et al.	536	27
	<b>DS</b>	5,118,800	06/02/92	Smith et al.	536	23
	<b>DT</b>	5,118,802	06/02/92	Smith et al.	536	27
	<b>DU</b>	5,130,302	07/14/92	Spielvogel et al.	514	45
	<b>DV</b>	5,134,066	07/28/92	Rogers et al.	435	91
	<b>DW</b>	5,135,917	08/04/92	Burch	514	44
	<b>DX</b>	5,138,045	08/11/92	Cook et al.	536	27
	<b>DY</b>	5,149,797	09/22/92	Pederson et al.	536	27
<i>M</i>	<b>DZ</b>	5,166,195	11/24/92	Ecker	514	44

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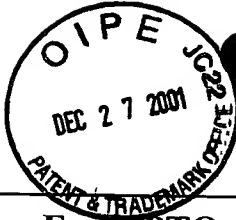
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	<b>EB</b>	5,175,273	12/29/92	Bischofberger et al.	536	27
	<b>EC</b>	5,177,196	01/05/93	Meyer, Jr. et al.	536	22.1
	<b>ED</b>	5,185,444	02/09/93	Summerton et al.	544	81
	<b>EE</b>	5,188,897	02/23/93	Suhadolnik et al.	428	402.2
	<b>EF</b>	5,194,428	03/16/93	Agrawal et al.	514	44
	<b>EG</b>	5,212,295	05/18/93	Cook	536	26.7
	<b>EH</b>	5,214,134	05/25/93	Weis et al.	536	25.3
	<b>EI</b>	5,214,136	05/25/93	Lin et al.	514	44
<i>u</i>	<b>EJ</b>	5,216,141	06/01/93	Benner	536	27.13

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

**EXAMINER***Jan Li***DATE CONSIDERED** *5/21/03*

**Form PTO-1449 Modified**

List of Patent and Publications  
Cited by Applicant  
(Use several sheets if necessary)

U.S. Department of Commerce  
Patent and Trademark Office

Docket No.  
**ISIS-4803**

Serial No.  
**09/973,981**

Applicant  
**Manoharan et al.**

Filing Date  
**October 9, 2001**

Group  
**Not yet assigned**

**U. S. PATENT DOCUMENTS**

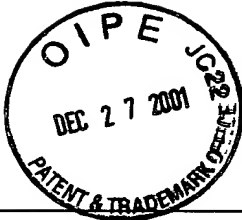
Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>AK</i>	<b>EK</b>	5,218,105	06/08/93	Cook et al.	536	25.31
	<b>EL</b>	5,220,007	06/15/93	Pederson et al.	536	23.1
	<b>EM</b>	5,235,033	08/10/93	Summerton et al.	528	391
	<b>EN</b>	5,242,906	09/07/93	Pagano et al.	514	44
	<b>EO</b>	5,245,022	09/14/97	Weis et al.	536	24.5
	<b>EP</b>	5,254,469	10/19/93	Warren, III et al.	435	188
	<b>EQ</b>	5,256,775	10/26/93	Froehler	536	25.6
	<b>ER</b>	5,258,506	11/02/93	Urdea	536	23.1
<i>AK</i>	<b>ES</b>	5,262,536	11/16/93	Hobbs, Jr.	546	25

**FOREIGN PATENT DOCUMENTS**

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<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office	Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
	Applicant <b>Manoharan et al.</b>	
	Filing Date <b>October 9, 2001</b>	Group <b>Not yet assigned</b>

**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Q</i>	ET	5,264,423	11/23/93	Cohen et al.	514	44
	EU	5,264,562	11/23/93	Matteucci	536	23.1
	EV	5,264,564	11/23/93	Matteucci	536	23.1
	EW	5,272,250	12/21/93	Spielvogel et al.	530	300
	EX	5,276,019	01/04/94	Cohen et al.	514	44
	EY	5,278,302	01/11/94	Caruthers et al.	536	24.5
	EZ	5,286,717	02/15/94	Cohen et al.	514	44
	FA	5,292,873	03/08/94	Rokita et al.	536	24.3
	FB	5,317,098	05/31/94	Shizuya et al.	536	23.1
<i>M</i>	FC	5,319,080	06/07/94	Leumann	536	27.1

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

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	Applicant <b>Manoharan et al.</b>	
	Filing Date <b>October 9, 2001</b>	Group <b>Not yet assigned</b>

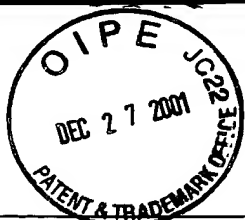
**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>h</i>	<b>FD</b>	5,321,131	06/14/94	Agrawal et al.	536	25.34
	<b>FE</b>	5,359,044	10/25/94	Cook et al.	536	23.1
	<b>FF</b>	5,366,878	11/22/94	Pederson et al.	435	91.3
	<b>FG</b>	5,367,066	11/22/94	Urdea et al.	536	24.3
	<b>FH</b>	5,371,241	12/06/94	Brush et al.	549	220
	<b>FI</b>	5,378,825	01/03/95	Cook et al.	536	25.34
	<b>FJ</b>	5,386,023	01/31/95	Sanghvi et al.	536	25.3
	<b>FK</b>	5,391,723	02/21/95	Priest	536	23.1
	<b>FL</b>	5,393,878	02/28/95	Leumann	536	28.2
<i>M</i>	<b>FM</b>	5,399,676	03/21/95	Froehler	536	23.1

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

<b>EXAMINER</b>	<i>John Li</i>	<b>DATE CONSIDERED</b>	<i>5/21/03</i>
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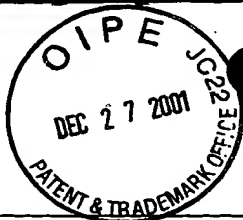
<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office	Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
	Applicant <b>Manoharan et al.</b>	
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**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>u</i>	FN	5,403,711	04/04/95	Walder et al.	435	6
	FO	5,405,938	04/11/95	Summerton et al.	528	406
	FP	5,405,939	04/11/95	Suhadolnik et al.	530	322
	FQ	5,414,077	05/09/95	Lin et al.	536	24.3
	FR	5,416,016	05/16/95	Low et al.	435	240.1
	FS	5,416,203	5/16/95	Letsinger	536	25.34
	FT	5,432,272	07/11/95	Benner	536	25.3
	FU	5,434,257	08/18/95	Matteucci et al.	536	24.3
	FV	5,446,137	08/29/95	Maag et al.	536	23.1
<i>u</i>	FW	5,451,463	09/19/95	Nelson et al.	428	402

**FOREIGN PATENT DOCUMENTS**

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**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>u</i>	<b>FX</b>	5,453,496	09/26/95	Caruthers et al.	536	24.5
	<b>FY</b>	5,455,233	10/03/95	Spielvogel et al.	514	44
	<b>FZ</b>	5,457,187	10/10/95	Gmeiner et al.	536	25.5
	<b>GA</b>	5,457,191	10/10/95	Cook et al.	536	27.13
	<b>GB</b>	5,459,255	10/17/95	Cook et al.	536	27.13
	<b>GC</b>	5,466,677	11/14/95	Baxter et al.	514	44
	<b>GD</b>	5,466,786	11/14/95	Buhr et al.	536	26.26
	<b>GE</b>	5,470,967	11/28/95	Huie et al.	536	24.3
	<b>GF</b>	5,476,925	12/19/95	Letsinger et al.	536	23.1
<i>u</i>	<b>GG</b>	5,484,908	01/16/96	Froehler et al.	536	24.31

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	
<b>EXAMINER</b> <i>John M.</i>				<b>DATE CONSIDERED</b> <i>5/21/03</i>		



<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office	Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
	Applicant <b>Manoharan et al.</b>	
	Filing Date <b>October 9, 2001</b>	Group <b>Not yet assigned</b>

**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>Q</i>	<b>GH</b>	5,486,603	01/23/96	Buhr	536	24.3
	<b>GI</b>	5,489,677	02/06/96	Sanghvi et al.	536	22.1
	<b>GJ</b>	5,491,133	02/13/96	Walder et al.	514	44
	<b>GK</b>	5,502,177	03/26/96	Matteucci et al.	536	2606
	<b>GL</b>	5,506,351	04/09/96	McGee	536	55.3
	<b>GM</b>	5,510,475	04/23/96	Agrawal et al.	536	24.3
	<b>GN</b>	5,512,439	04/30/96	Hornes et al.	435	6
	<b>GO</b>	5,512,667	04/30/96	Reed et al.	536	24.31
	<b>GP</b>	5,514,785	05/07/96	Van Ness et al.	536	22.1
<i>Q</i>	<b>GQ</b>	5,519,126	05/21/96	Hecht	536	24.3

**FOREIGN PATENT DOCUMENTS**

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EXAMINER	<i>Qm</i>	DATE CONSIDERED	5/21/03
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**Form PTO-449 Modified**List of Patent and Publications  
Cited by Applicant  
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Patent and Trademark OfficeDocket No.  
**ISIS-4803**Serial No.  
**09/973,981**Applicant  
**Manoharan et al.**Filing Date  
**October 9, 2001**Group  
**Not yet assigned****U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>u</i>	GR	5,519,134	05/21/96	Acevedo et al.	544	243
	GS	5,521,302	05/28/96	Cook	536	25.31
	GT	5,525,465	06/11/96	Haralambidis et al.	435	6
	GU	5,525,711	06/11/96	Hawkins et al.	536	22.1
	GV	5,536,821	07/16/96	Agrawal et al.	536	22.1
	GW	5,539,082	07/23/96	Nielsen et al.	530	300
	GX	5,541,306	07/30/96	Agrawal et al.	536	22.1
	GY	5,541,307	07/30/96	Cook et al.	536	23.1
	GZ	5,541,313	07/30/96	Ruth	536	24.3
<i>u</i>	HA	5,543,508	08/06/96	Haseloff et al.	536	23.2

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

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*John Lin*DATE CONSIDERED **5/21/03**



<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office	Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
	Applicant <b>Manoharan et al.</b>	
	Filing Date <b>October 9, 2001</b>	Group <b>Not yet assigned</b>

**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>24</i>	<b>HB</b>	5,545,729	08/13/96	Goodchild et al.	536	24.5
	<b>HC</b>	5,545,730	08/13/96	Urdea et al.	536	28.51
	<b>HD</b>	5,550,111	08/27/96	Suhadolnik et al.	514	44
	<b>HE</b>	5,552,538	09/03/96	Urdea et al.	536	24.3
	<b>HF</b>	5,552,540	09/03/96	Haralambidis	536	25.34
	<b>HG</b>	5,554,746	09/10/96	Ravikumar et al.	540	200
	<b>HH</b>	5,561,225	10/01/96	Maddry et al.	536	23.1
	<b>HI</b>	5,563,253	10/08/96	Agrawal et al.	536	22.1
	<b>HJ</b>	5,565,350	10/15/96	Kmiec	435	172.3
<i>24</i>	<b>HK</b>	5,565,552	10/15/96	Magda et al.	534	11

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

<b>EXAMINER</b> <i>Jim Li</i>	<b>DATE CONSIDERED</b> <i>5/21/03</i>
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<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office	Docket No. <b>ISIS-4803</b>	Serial No. <b>09/973,981</b>
	Applicant <b>Manoharan et al.</b>	
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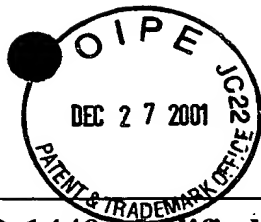
**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>W</i>	HL	5,567,810	10/22/96	Weis et al.	536	25.3
	HM	5,567,811	10/22/96	Misiura et al.	536	25.34
	HN	5,571,799	11/05/96	Tkachuk et al.	514	47
	HO	5,571,902	11/05/96	Ravikumar et al.	536	22.1
	HP	5,574,142	11/12/96	Meyer, Jr. et al.	536	23.1
	HQ	5,576,427	11/19/96	Cook et al.	536	23.1
	HR	5,578,717	11/26/96	Urdea et al.	536	26.1
	HS	5,578,718	11/26/96	Cook et al.	536	27.21
	HT	5,580,731	12/03/96	Chang et al.	435	6
<i>W</i>	HU	5,585,481	12/17/96	Arnold, Jr. et al.	536	25.33

**FOREIGN PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Country	Translation YES NO	

EXAMINER	<i>John W.</i>	DATE CONSIDERED	<i>5/21/03</i>
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Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>JK</i>	<b>HV</b>	5,587,361	12/24/96	Cook et al.	514	44
	<b>HW</b>	5,587,371	12/24/96	Sessler et al.	514	185
	<b>HX</b>	5,587,469	12/24/96	Cook et al.	536	23.1
	<b>HY</b>	5,587,470	12/24/96	Cook et al.	536	23.1
	<b>HZ</b>	5,591,584	01/07/97	Chang et al.	435	6
	<b>IA</b>	5,591,722	01/07/97	Montgomery et al.	514	45
	<b>IB</b>	5,594,121	01/14/97	Froehler et al.	536	23.5
	<b>IC</b>	5,595,726	01/21/97	Magda et al.	424	9.61
	<b>ID</b>	5,596,086	01/21/97	Matteucci et al.	536	22.1
<i>JK</i>	<b>IE</b>	5,596,091	01/21/97	Switzer	536	24.5

**FOREIGN PATENT DOCUMENTS**

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**U. S. PATENT DOCUMENTS**

Examiner Initial		Document No.	Date	Name	Class	Subclass
<i>On</i>	IF	5,597,696	01/28/97	Linn et al.	435	6
	IG	5,597,909	01/28/97	Urdea et al.	536	24.3
	IH	5,599,797	02/04/97	Cook et al.	514	44
	II	5,599,923	02/04/97	Sessler et al.	540	145
	IJ	5,599,928	02/04/97	Hemmi et al.	540	474
	IK	5,602,240	02/11/97	De Mesmaeker et al.	536	23.1
	IL	5,608,046	03/04/97	Cook et al.	536	23.1
	IM	5,610,289	03/11/97	Cook et al.	536	25.34
	IN	5,610,300	03/11/97	Altmann et al.	544	244
<i>On</i>	IO	5,614,617	03/25/97	Cook et al.	536	23.1

**FOREIGN PATENT DOCUMENTS**

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<b>U. S. PATENT DOCUMENTS</b>							
Examiner Initial		Document No.	Date	Name	Class	Subclass	
<i>Q</i>	IP	5,618,704	04/08/97	Sanghvi et al.	435	91.5	
	IQ	5,623,065	04/22/97	Cook et al.	536	23.1	
	IR	5,623,070	04/22/97	Cook et al.	536	27.6	
	IS	5,625,050	04/29/97	Beaton et al.	536	24.1	
	IT	5,627,053	05/06/97	Usman et al.	435	91.1	
	IU	5,633,360	05/27/97	Bischofberger et al.	536	22.1	
	IV	5,639,873	06/17/97	Barascut et al.	536	25.3	
	IW	5,646,265	07/08/97	McGee	536	25.34	
	IX	5,652,355	07/29/97	Metelev et al.	536	24.5	
<i>M</i>	IY	5,652,356	07/29/97	Agrawal	536	24.5	
<b>FOREIGN PATENT DOCUMENTS</b>							
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<i>h</i>	<b>IZ</b>	5,658,873	08/19/97	Bertsch-Frank et al.	510	375
	<b>JA</b>	5,663,312	09/02/97	Chaturvedula	536	22.1
	<b>JB</b>	5,670,633	09/23/97	Cook et al.	536	23.1
	<b>JC</b>	5,677,437	10/14/97	Teng et al.	536	23.1
	<b>JD</b>	5,677,439	10/14/97	Weis et al.	536	23.1
	<b>JE</b>	5,681,941	10/28/97	Cook et al.	536	23.1
	<b>JF</b>	5,688,941	11/18/97	Cook et al.	536	25.3
	<b>JG</b>	5,697,248	12/16/97	Brown	73	290 V
	<b>JH</b>	5,700,920	12/23/97	Altmann et al.	536	221
<i>h</i>	<b>JI</b>	5,700,922	12/23/97	Cook	536	23.1

**FOREIGN PATENT DOCUMENTS**

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